

INTERNATIONAL SEARCH REPORT

PCT/68 03/05308

A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 B21J15/10 B21J15/14 B23Q39/02 B25J15/00

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 B21J B23Q B25J

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Character of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 4 645 112 A (COOK DANIEL D ET AL) 24 February 1987 (1987-02-24) column 3, lines 29-46 column 7, line 57 - column 9, line 28 column 11, line 9 - column 12, line 25; figures 1,6-9	1-8
X	US 6 108 896 A (GIGNAC JACQUES ET AL) 29 August 2000 (2000-08-29)	15-21, 23-29, 34-40 1
A	column 3, lines 20-46; figures 4,6,8	
X	DE 100 27 985 A (EISENBACH B ROTOX GMBH) 3 January 2002 (2002-01-03) paragraphs '0035! - '0043!; figures 1-8	1
	-/-	

☒ Further documents are listed in the continuation of box C.☒ Patent family members are listed in annex.

* Special categories of cited documents:

- *A* document defining the general state of the art which is not considered to be of particular relevance
- *E* earlier document but published on or after the international filing date
- *L* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- *O* document referring to an oral disclosure, use, exhibition or other means
- *P* document published prior to the international filing date but later than the priority date claimed

- *T* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- *X* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- *Y* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
- *Z* document member of the same patent family

Date of the actual completion of the international search

3 June 2004

Date of mailing of the international search report

22.06.2004

Name and mailing address of the ISA

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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 4 557 035 A (HANINGER RUDOLF ET AL) 10 December 1985 (1985-12-10) column 1, lines 51-63 column 5, lines 36-55; figures 1,3	1
A	GB 2 192 357 A (AERPAT AG) 13 January 1988 (1988-01-13) page 2, lines 48-61; figures 1,2	1
A	DE 100 61 883 A (MUELLER THOMAS ;TDM ELEKTRONIK (DE)) 27 June 2002 (2002-06-27) paragraphs '0027! - '0031!; figure 1	1
A	CH 328 511 A (AUTELCA AG) 15 March 1958 (1958-03-15) page 1, line 61 - page 3, line 20; figure 1	1
A	US 4 821 584 A (LEMBKE JOHN R) 18 April 1989 (1989-04-18) column 2, line 53 - column 3, line 15 column 5, lines 25-35; figure 2	30-32
A	WO 99/61205 A (GEN ELECTRO MECH CORP) 2 December 1999 (1999-12-02) page 14, lines 28-31; figure 10	30

INTERNATIONAL SEARCH REPORT

International application No.
PCT/GB 03/05308**Box I Observations where certain claims were found unsearchable (Continuation of Item 1 of first sheet)**

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☐ Claims Nos.:
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box II Observations where unity of invention is lacking (Continuation of Item 2 of first sheet)

This International Searching Authority found multiple inventions in this International application, as follows:

see additional sheet

1. ☒ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☒ No protest accompanied the payment of additional search fees.

International Application No. PCT/ 6B 03 /05308

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1-14

Tool support comprising at least two tool carrier arms,
movable relative to a fixed datum.

2. claims: 15-33

End effector for an automated riveting machine comprising a
drilling tool, a sealant dispensing tool and a riveting
tool.

3. claims: 34-37, 38-40

Automated riveting machine and method wherein two end
effectors are positioned on opposite sides of a workpiece
and in-line.

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Patent document cited in search report		Publication date	Patent family member(s)	Publication date
US 4645112	A	24-02-1987	US 4515302 A	07-05-1985
			EP 0082680 A1	29-06-1983
			JP 58110147 A	30-06-1983
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			WO 9961205 A2	02-12-1999
			US 6295710 B1	02-10-2001

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